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BUREAU OF PLANT INDUSTRY,
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HINTS TO SETTLERS ON THE MINIDOKA PROJECT,
IDAHO.

LOCATION OF THE PROJECT.

The Minidoka Project provides for the reclamation of about 130,000 acres of land lying on both sides of Snake River in southern Idaho. The area benefited was all Government land. Three town sites were established, and the farm unit was fixed at 40 acres within a radius of $1\frac{1}{2}$ miles from the center of each town site, and 80 acres on other lands. The soil is excellent, being a deep, sandy loam, free from alkali. The cost of water right for the first unit of about 80,000 acres is \$22 per acre, to be paid in ten annual instalments without interest, and the annual charge for operation and maintenance amounts to about 40 cents. Practically all of the public land is filed upon. There are several thousand acres of State land that will be sold by the State Land Board at Boise, Idaho, to whom inquiries should be addressed.

By means of cooperative work with the settlers the canals on the south side have been rapidly pushed forward and water will be furnished for the season of 1909. The installation of a pumping plant is well under way. This Project is on the Oregon Short Line Railway, which has recently extended a branch through the tract. The Government town sites are situated on this railroad, and town lots may be purchased at reasonable prices upon application to the register of the land office at Hailey, Idaho. There are good openings for manufacturers, professional men, and skilled and unskilled laborers.

TYPES OF SOIL.

There are at least three types of soil found on the Minidoka tract—the fine or clay soil, medium sandy, and coarse sandy soil. Each of these soils must be treated differently, both with regard to cultivation and irrigation, in order to get the best results.

PREPARING THE SEED BED.

The fine or clay soil should be plowed 6 or 7 inches deep if plowed either in the fall or spring, followed by a thorough harrowing to pre-

pare a good seed bed. The sandy soil should be plowed quite shallow, especially if plowed in the spring, and thoroughly prepared for a good seed bed.

METHODS OF IRRIGATION.

There are three systems of irrigation that can be practiced on the Minidoka tract: Corrugation, or the furrow method; straight flooding; and the basin method.

The furrow method of irrigation can be practiced successfully on the fine soil, provided sufficient fall can be had in the running of water. With the furrow method the land should be laid off as nearly in squares as may be, and care should be exercised that all furrows are of the same length and always have about the same grade, else there will not be a uniform moistening of the ground.

Flooding can often be advantageously practiced on the medium fine soils if the land is properly prepared by grading. Where flooding is practiced care should be exercised not to allow too large a space to be flooded at any particular time. The field should be divided in small sections and the water not allowed to run any great distance in any one direction. The only difference between this and the basin method would be that borders are not necessary, but a uniform grade should always be maintained wherever possible for each section to be covered.

On the sandy land the basin method should be practiced almost entirely, provided a nearly level grade can be prepared for each particular basin or section. In preparing the ground for the basin method no particular lines need be followed. The only thing to be kept in mind is that each separate basin should be nearly level and not too large. These basins can be made at different levels by simply plowing a back furrow around each basin, the furrows forming a rim which confines the water.

NUMBER OF TIMES TO IRRIGATE.

The number of times to irrigate during the season will depend upon the porosity or texture of the soil. The ability of the soil to hold moisture for the needs of the crop depends upon the size of the soil particles. The finer the soil within reasonable limits the more water it will hold, and the coarser the soil the less it will hold. The finer the soil the longer it is necessary to run the water on the land, and the coarser the soil the less time will be required. Consequently the finer soil, where it requires a longer time to run the water, also requires less frequent irrigation, and the coarser soil, where it requires quicker irrigation and less time for the operation, should be irrigated more frequently. The land should be so laid out that the above rules can be followed. The rotating of water is always advantageous, and especially so on the sandy land, enabling the farmer to irrigate his field more quickly and economically.

SEEDING.

On account of the liability of the sandy soil to drift, crops should be planted on this land very early in the season, so that the spring rains will bring them up and cover the land thoroughly in order to bind it down and prevent drifting. However, if it is necessary to plant some lands later in the spring much good can be accomplished by scattering straw or coarse manure over the land after the seeding has been done, then running a disk harrow over the field, with the disks running straight, weighted down considerably so as to make an impression in the ground and bury a part of the litter so the wind will not disturb it, and in this way prevent the drifting of the land. Oftentimes stubble land of this character of soil can be had and the planting of alfalfa or clover in the field without plowing is recommended, the stubble having a tendency to hold down the soil and prevent drifting. The sandy land also requires that the seed be planted deeper.

All grain should be put in with a drill, and also all grass seed wherever possible, care being taken, however, not to deposit the grass seed over 2 inches deep in the soil on the medium sandy or the sandy land.

Sowing clover with wheat as early in the year as the land is fit to seed is recommended, planting 1 bushel of wheat and 8 pounds of clover. With oats and alfalfa, which must be planted later on account of the possibility of late spring frosts injuring them, $1\frac{1}{4}$ bushels of oats and 10 pounds of alfalfa should be sown, putting both in about 2 inches deep with a drill. On the finer soils it is always advisable to plant each crop by itself—that is, not using grain as a nurse crop for clover or alfalfa. However, nurse crops can be used on these fine soils, but it is more advisable to seed the grass or the clover broadcast, either with a combination seeder or seeding after the grain has been sown. As a rule all grain should be sown with a drill in order to provide even germination and an even stand. The broadcast seeding of grain is not a success in an arid country.

When clover or alfalfa is seeded with a nurse crop, a close watch should be kept as to the needs of the smaller plants, and moisture should be supplied whenever needed by the clover or alfalfa without regard to the grain. In every case the fields should be irrigated just before harvesting the grain, and as soon as possible the grain should be removed from the field and the field irrigated again.

FERTILIZING.

All the soil on the Minidoka tract is deficient in humus and nitrogen. This must be supplied, the best way being to plant either alfalfa or clover with grain even though it is intended to continue growing grain on the same land. Clover and alfalfa fertilize the ground, bind the soil, and furnish a splendid fall and winter pasture for farm animals.

CONCLUSION.

The foregoing suggestions must be kept in mind in order to raise crops successfully, but to become successful, financially and otherwise, the farmer must bear in mind the fact that dairying will become the most profitable industry on the Minidoka Project and that the cornerstone of his prosperity lies in the planting of alfalfa and clover to be used in feeding dairy animals and in the planting of trees to break the force of the wind, thus making conditions more pleasant.

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Approved :

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